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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,174	10/03/2003	Charles Lee Edwards	TH1647 05 (US)	2866

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EXAMINER

VOLLANO, JEAN F

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/679,174	<b>Applicant(s)</b> EDWARDS ET AL.	
	<b>Examiner</b> Jean F. Vollano	<b>Art Unit</b> 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 52-56 is/are pending in the application.
- 4a) Of the above claim(s) 56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 52-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/3/03</u> . | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

1. The election filed 4/5/2004 has been entered. Applicant notes that there was a submission on the transmittal form to cancel claims 1-49. The claims had been renumbered by the office of initial patent processing. The remaining claims are now number 52-56 (after the renumbering). Please use that designation when you are submitting any new claims. Since the claims have been canceled the only two groups pending are Groups VI and VI. The rest of the restriction is drawn to canceled claims and is withdrawn. Applicant has chosen Group V which are drawn to newly numbered claims 52-55 which is a process for preparing alcohol compositions. Claim 56 is withdrawn from consideration as being drawn to non elected subject matter. Please remember to list your elected claims as 52-55 which is in accordance to the number changes of Rule 126 that has been instituted by the initial processing office.

### ***Priority***

2. The priority data has been placed in the specification in the first sentence as follows: “This is a division of Application Serial No. 10/025.080 filed December 19, 2001, the entire disclosure of which is hereby incorporated by reference, which claims the benefit of U.S. Provisional Application No. 60/257,670 file December 21, 2000, the entire disclosure of which is hereby incorporated by reference. The divisional has matured into a patent and therefore according to the MPEP : “The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression “now Patent No. \_\_\_\_\_” should follow the filing date of the parent application.

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The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 52-55 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5-8 of U.S. Patent No. US6,706,931.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the steps are the same the only difference is that the product is broader in the pending application than in US 6,706,931. The process in the instant invention is drawn to producing a branched alcohol reacting an olefin having 3-8 carbons with a 1, 3 propane diol in the presence of a catalyst with a dependent claim listing the catalyst as an acid catalyst and a depending claim listing the temperature range from 50<sup>0</sup>C to 250<sup>0</sup>C. US 6,706,931 teaches the exact same process using the same temperature range and the same catalyst. The only difference is the scope of olefin being reacted. US 6,706, 931 teaches that an olefin of the structure found in claim 1 of US 6,706,931 and the instant invention does not limit the scope of the olefin. However the specification teaches towards using an olefin which is the same as that found in US 6,706, 931. The claimed process is essentially the same and could preparing any compound found in US 6,706,931 plus more and therefore is an obvious variant.

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The examiner notes that the original examiner did make a restriction in which group V was drawn to the process of preparing branched alcohol compositions . However this group was apparently not elected but when the compound was allowed the examiner gave the process to the scope of the branched alcohol found allowable .

***Claim Rejections - 35 USC § 112***

3. Claims 52-55 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compounds which have the olefin structure of those found on the bottom of page 18 of the specification (  $\text{CH}_3 (\text{CHR}_1)_x \text{CH}=\text{R}'_2$  ), does not reasonably provide enablement for any olefin starting material. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The term olefin describes thousands of compounds. The only limitation given in the claim and specification is that the carbon number be from 3 to 18. There is no teaching in the specification that there cannot be a functional group attached and there is no teaching that the olefin is not attached to a metal. The metes and bounds of the claim have not been defined in the specification and therefore the claim is open to any olefin including olefins such as found below.

$\text{CH}_3 \text{CH}=\text{CHCH}_2\text{COOH}$ ,  $\text{CH}_3\text{CH}_2\text{CH}=\text{CHCH}_2\text{CH}=\text{CHCH}_2\text{NH}_2$  and

(acetonitrile)dichloro[(1,2-eta.)-cyclooctene]- Platinum are all compounds which could be considered olefins. The platinum compound contains a pi bonding between the cyclooctene and the platinum which can be described as an olefin and the other structures also fit under the term

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olefin. There is in the specification some non limiting examples to olefins however there is no definition of the metes and bounds of the term. The examiner searched the term ene which is an olefin naming system in Chemical Abstracts on line and got the following:

=> s ene

4712944 ENE

25892 ENES

L3 4712944 ENE

(ENE OR ENES) ,

There are over 4 million hits on the term. There can be functional groups on the structure. There is nothing that precludes this. The olefin can be part of a metal complex or part of a porphine ligand etc. The process gives only a catalyst and any method according to the recitation of "under conditions effective to produce the branched alcohol composition." It is noted that the branched alcohol is really an alkoxy alcohol but is under the correct title of an alcohol as are the above compounds which can be called olefins. Without specific guidance from the specification as to how to use the process when metals or other functional groups are involved it would take undue experimentation to find out which catalysts are applicable for every scenario and which reaction conditions would produce the desired product. Catalysts are very unpredictable in the art and what is a catalysts for one reaction would not be a catalyst for another reaction wherein there was just a change in the functional group attached to the ligand.

The process being claimed is broader than the scope of the enablement and it would take undue experimentation to make and use the process being claimed in the instant invention.

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4. Claim 53 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for acid catalysts, does not reasonably provide enablement for any catalyst. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The catalyst are is well known by those of ordinary skill in the art to be unpredictable. One catalyst which works in one type of reaction is not necessarily a catalyst in another type of reaction. Nor is a catalyst necessarily a catalyst in the same reaction with a different structure.

There are functional groups on olefins which may or may not poison the catalyst or may or may not function due to the type of olefin or the carbon arrangement (i.e. substituted styrene with two phenyl groups) which may interfere with the ability of the catalyst to function due to steric crowding.

It would take undue experimentation to use any type of catalyst in the process and find out which conditions in the process must be modified to make the compounds form in the presence of the catalyst. There are organometallic catalysts , phosphorus catalysts, basic catalysts, amphoteric catalysts just to name a few.

With the unpredictability of the catalyst art is would take undue experimentation to find out which catalyst works for which process.

The scope of the claim is broader than the scope of the enablement and it would take undue experimentation to make and use the scope to which the process is being claimed.

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5. Claims 52-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 52 recites the limitation of "an olefin having an average carbon number". It is unclear how "an" olefin can have an average carbon number. An olefin is a compound with a certain structure defined by the atoms that make up the structure. There is not an "average" number of any carbon atoms in a structure that is a compound. There is only average numbers in a mixture. An olefin mixture or an olefin feed which can be a mixture of olefins could have an average number depending on the ratio of different olefins. As written the claim is confusing as to the metes and bounds of what is being claimed in the instant invention. The same problem occurs in claim 54.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 52-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Chem abs 779 (CA:102:220779)

Chem abs 779 teaches a process for making a branched alcohol by reacting a 1, 3 propane diol with an olefin.

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When Chem abs 779 teaches that the catalyst is methyl benzene sulfonic acid ( i.e. TsOH) then the claims are fully anticipated.

6. Claims 52-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Chem abs 377 (CA:120:107377).

Chem abs 377 teaches a process for making a branched alcohol by reacting a 1, 3 propane diol with an olefin in to give a branched alcohol which contains 14 carbons.

When Chem abs 377 teaches that there is HCl ( i.e. hydrochloric acid) in the reaction then the claims are fully anticipated.

The limitation is an acid catalyst. An acid is present and therefore the limitation is met. The acid does not have to be assigned a role of a catalyst it only has to meet the limitation of the claims. Also there is a two step process which is not precluded by the term "comprising".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 52 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chem abs 779 ( CA:102:220779)

The rejection over the claims are essential as supra.

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Chem abs 779 does not give an exact temperature range. However it would have been obvious to one of ordinary skill in the art to have optimized the temperature to optimize the yield and purity of the product. It is well known in the art that raising the temperature to some degree increases the reaction thermodynamically and could increase the yield. Changing a parameter of a known reaction such as temperature is not an obvious variant unless there is an unexpected result by the change in temperature. There is nothing in the specification which would lead one to believe that the temperature would give an unexpected result in the process.


7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6,100,433, US 4,317,938, US 4,226,637.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean F. Vollano whose telephone number is 571-2720648. The examiner can normally be reached on Monday-Thursday 6:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272- 0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean F. Vollano  
Primary Examiner  
Art Unit 1621

April 18, 2004